

Claims

1. A process for preparing oil and petrol-resistant cellular to solid (polyurea)polyurethanes by reacting a reaction mixture comprising
- 5
- A1) a polyetherpolyol component with a number average molecular weight of 1000 to 8000 g/mol,
- A2) 3-30% of a polyesterpolyol component with a number average
- 10 molecular weight of 1000 to 6000 g/mol,
- B) a polyisocyanate component,
- C) chain-extending agents,
- 15 optionally
- D) blowing agents and
- 20 E) activators and other auxiliary substances and additives,
- wherein the starting materials are reacted while maintaining the isocyanate index at a value of 70 to 130.
- 25 2. A process according to Claim 1, in which component A2) contains a polyesterpolyol which contains 20-47.3 mol.% of units derived from adipic acid, 0-20 mol.% of units derived from glutaric acid, 0-10 mol.% of units derived from succinic acid, 10-30 mol.% of units derived from neopentyl glycol, 10-30 mol.% of units derived from hexanediol, 0-15 mol.% of units
- 30 derived from ethanediol and 10-20 mol.% of units derived from butanediol.

3. A process according to Claim 1 or 2, in which component A2) is used as a constituent of polyisocyanate component B).
4. A process according to Claim 1 or 2, in which components A1), A2), C) and optionally D) and E) are combined to give a polyol component which is reacted with polyisocyanate component B).
5. Oil and petrol-resistant cellular to solid (polyurea)polyurethanes obtainable according to any one of Claims 1 to 4.
6. Transparent (polyurea)polyurethanes according to Claim 5.
7. Materials containing (polyurea)polyurethanes according to Claim 5 or 6 which are resistant to hydrolysis and the action of microbes.
8. Shoe soles containing (polyurea)polyurethanes according to Claim 5 or 6.
9. Use of (polyurea)polyurethanes according to with Claim 5 or 6 for the production of safety clothing.
10. Use of (polyurea)polyurethanes according to Claim 5 or 6 in the construction of cars.

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At page 7, lines 15-17, please amend the text to read as follows:

A⁴ The grades of PUR obtained are suitable in particular for preparing soles of shoes which comply with safety shoe standard EN 344, but may also be used for wheels, rollers, flexible tubing and tires due to their ability to withstand a high degree of stress.

IN THE CLAIMS:

Please cancel Claims 1-10 and add the following new Claims 11- 22:

A⁵ 11. A process for the production of oil and petroleum-resistant (polyurea)polyurethanes comprising reacting a mixture comprising

A1) a polyether polyol component having a number average molecular weight of from 1000 to 8000 g/mol,

A2) from 3 to 30 wt.%, based on total weight of components A1) and A2), of a polyester polyol component having a number average molecular weight of from 1000 to 6000 g/mol,

B) a polyisocyanate component,

C) a chain extending agent,

and optionally,

D) a blowing agent and/or

E) an activator, auxiliary substance or additive

at an isocyanate index of from 70 to 130.

12. The process of Claim 11 in which the polyester polyol component comprises

(1) from 20 to 47.3 mol% of units derived from adipic acid,

(2) from 0-20 mol% of units derived from glutaric acid,

(3) from 0 to 10 mol% of units derived from succinic acid,

(4) from 10 to 30 mol% of units derived neopentyl glycol,

- (5) from 10-30 mol% of units derived from hexanediol,
(6) from 0-15 mol% of units derived from ethanediol,
and (7) from 10-20 mol% of units derived from butanediol.

13. The process of Claim 12 in which the polyester polyol component is included in the polyisocyanate component.

14. The process of Claim 11 in which the polyester polyol component is included in the polyisocyanate component.

15. The process of Claim 11 in which the polyether polyol component, polyester polyol component, chain extending agent, any blowing agent and any activator, auxiliary substance or additive are combined before being reacted with the polyisocyanate component.

16. The oil and petroleum-resistant (polyurea)polyurethane of Claim 12.

17. The oil and petroleum-resistant (polyurea)polyurethane of Claim 11.

18. The (polyurea)polyurethane of Claim 17 which is transparent.

19. The (polyurea)polyurethane of Claim 17 which is resistant hydrolysis and microbial action.

20. A shoe sole composed of the (polyurea)polyurethane of Claim 17.

21. Safety clothing produced from the (polyurea)polyurethane of Claim 17.

22. Flexible tubing produced from the (polyurea)polyurethane of Claim

17.- -

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